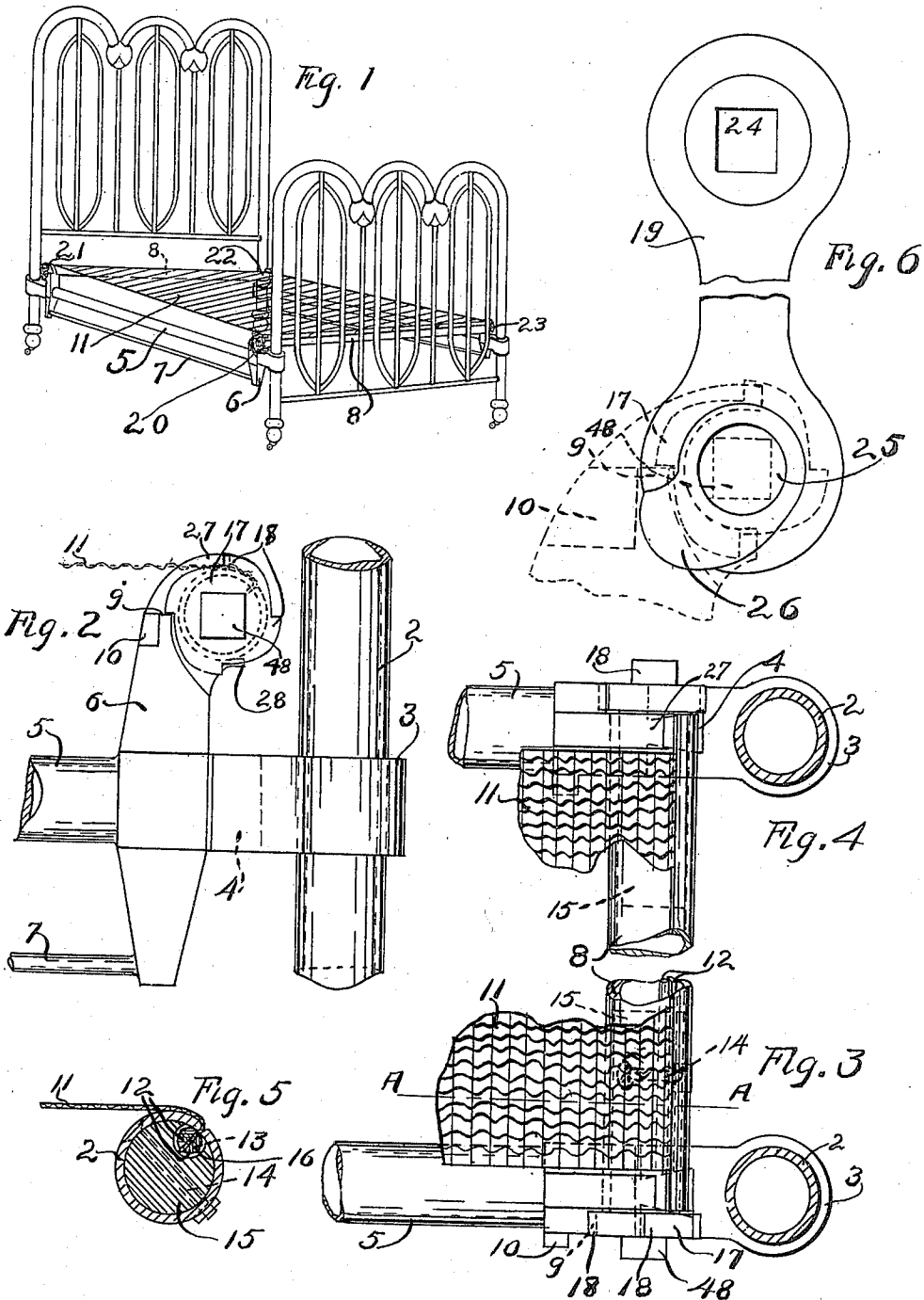


C. CLIFFORD.
BED SPRING FRAME.
APPLICATION FILED APR. 25, 1910.

984,122.

Patented Feb. 14, 1911.



Witnesses:
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UNITED STATES PATENT OFFICE.

CHARLES CLIFFORD, OF ST. PAUL, MINNESOTA.

BED-SPRING FRAME.

984,122.

Specification of Letters Patent. $\circ$ Patented Feb. 14, 1911.

Application filed April 25, 1910. Serial No. 557,370.

To all whom it may concern:

Be it known that I, CHARLES CLIFFORD, a citizen of the United States, residing at St. Paul, in the county of Ramsey and State of Minnesota, have invented a new and useful Improvement in Bed-Spring Frames, of which the following is a specification.

My invention relates to improvements in bed spring frames.

10 My object is to render the woven wire spring fabric now generally used on bedsteads easily removable from the bed and easily replaced.

By the use of my device the woven wire 15 springs may be tightened when they sag and may be adjusted readily to any degree of "softness" or "hardness" to suit the occupant of the bed. My device also simplifies the construction of the bed rail and spring 20 frame and makes the labor of setting up a bed simpler and lighter.

In the drawings by which I illustrate my device and which form part of my specification, Figure 1 is a perspective view of a 25 bed fitted with my device; Fig. 2 is an elevation of one bed post in Fig. 1; Figs. 3 and 4 are sectional plans at the foot end of the bed shown in Fig. 1; Fig. 5 is a section on the line A—A, Fig. 3, showing the manner 30 of attaching the spring fabric to the frame, and Fig. 6 illustrates a wrench to be used in connection with my bed spring frame.

Referring to the above drawings, on the bed posts 2 are fastened the rings 3 carrying 35 sockets fitted to hold the heads 4 of the side rails 5. At each end of the side rail near the head 4 is rigidly mounted a lever 6 extending above and below the side rail, at the lower end of which is attached the truss rod 40 7 extending the length of the side rail and attaching to a similar lever at its other end, thus forming a tension truss member adapted to prevent the bending of the side rail by the pull of the spring fabric on the upper 45 lever arm. At its upper end the lever is fashioned with a semicircular recess concave toward the adjacent corner post of the bed and fitted to receive the pipe frame 8, a shoulder 9, and a lug 10. The arms 27 and 50 28 inclose this recess and the lower arm 28 extends toward the adjacent corner post so that the pipe 8 cannot slip between the lever and the post. The wire spring fabric forming the supporting surface or "spring" 11 55 of the bed is secured at the head and foot

ends to the pipe frames 8 which are supported at each end in the recesses of the levers 6. To thus secure the fabric in the end frames, two half rounds 12 are riveted to each other at the extreme ends of the 60 fabric by rivets 13, forming a round stop across the ends. The pipe frames 8 are slotted on one side for their entire length and the stop is slipped inside the pipe, allowing the springs to pass out through the slots. 65 The pipes are prevented from spreading by bolts 14. In each end of the pipe frame 8 is inserted a metal stud 15 which is fitted to the size of the pipe and has a recess 16 adapted to receive the end of the stop 12. 70 Integral with the stud, outside the pipe, is a ratchet wheel 17 having stops 18 adapted to engage the shoulder 9 on the lever 6 when the pipe frame 8 lies in the recess of the 75 lever 6. Outside the ratchet wheel 17 is the square head 48 having its axis in line with the axis of the pipe frame 8. The stud 15 is bolted to the pipe 8 by the bolts 14 and is adapted to rotate the pipe roller frame 8 on 80 its axis by the application of a suitable wrench 19 to the head 48. The levers 6 applied to the bedstead at points 20, 21, 22 and 23, are identical, and not paired, consequently the side rails may be interchanged 85 or reversed without interfering with the operation of my device. The studs 15 are not paired, therefore the ratchets can act at only one end of each pipe frame at a time and the spring can be turned end for end or up- 90 side down without interfering with its action.

In using my device the head 4 of the side rail is engaged with the socket of the corner post at 20, 21, 22 and 23. The spring 95 with its attached pipe roller frames is put in place with the ends of the frames lying in the sockets in the levers 6. The opening 24 of the wrench 19 is applied to the head 48 and turned in the direction which will 100 wind the wire spring fabric over the top of the roller frame. This will tighten the spring and as the stop on one of the ratchet wheels at the opposite end of the bed engages with the shoulder on the lever at that point the spring will be stretched. As each stop 105 of the active ratchet on the roller frame which is being revolved, is turned past the shoulder on the lever, it slightly stretches the spring and then slips back into place, and when the proper degree of tightness has 110

been secured the nearest stop will prevent the unrolling and loosening of the spring.

When it is desired to loosen or take down the spring, the round opening 25 in one end of the wrench is applied to the head 18 of the stud 15 on which the ratchet is active and the lug 26 of the wrench is brought to bear against the lug 10 of the lever. The opening 25 is sufficiently large to allow the head 48 to revolve freely therein and as the wrench is forced against the lug 10 the engaged tooth of the ratchet is forced from the engaging shoulder 9 and the head 48 will revolve in the opening 25 thus unwinding the spring and loosening it.

In accordance with the patent statutes I have described the principles of operation of my invention together with the apparatus which I now consider to represent the best embodiment thereof but I desire to have it understood that the construction shown is only illustrative and that the invention can be carried out by other means and applied to uses other than those above set forth within the scope of the following claims.

Having described my invention, what I claim as new and desire to protect by Letters Patent is:—

1. A spring bed, comprising, in combination, a head frame, a foot frame, a spring fabric bottom, two trussed side rails connecting said frames, roller end frames at the ends of said spring fabric adapted to support it, cross frames at the ends of said side rails carrying the ends of said rail trusses and the ends of the roller end frames, each of said cross frames having a single shoulder, ratchet wheels on the ends of said rollers adapted to engage said shoulders, and a wrench adapted to rotate said rollers to tighten the bed bottom, and to free said

ratchets from engagement with said shoulders and loosen said bed bottom.

2. A spring fabric bed bottom frame consisting of head and foot frames connected by trussed side rails, levers mounted upon said side rails, having recesses therein and a single engaging shoulder thereon, the levers upon the different rail ends being substantially identical, roller end frames fitted to said recesses and adapted to stretch said spring fabric, ratchet wheels upon the ends of said rollers and adapted to engage said shoulders to maintain the fabric in its stretched position, all of said ratchet wheels being substantially identical; whereby one ratchet on each roller is adapted to engage a shoulder in any position of the bed bottom, thus rendering the bed bottom reversible sidewise and endwise, and the side rails reversible and interchangeable.

3. A spring fabric supporting bed-spring frame having trussed side rails formed with shoulders, removable roller end frames rotatably mounted on said side rails, ratchet wheels rigidly connected to the ends of said roller frames and adapted to engage said shoulders, a head integral with each of said ratchet wheels, and a wrench having one end adapted to operate said roller rotating head and the opposite end of said wrench adapted to disengage said ratchet wheels from said shoulders and loosen said stretched spring fabric.

In testimony whereof, I have signed my name to this specification, in the presence of two subscribing witnesses.

CHARLES CLIFFORD.

Witnesses:

PAUL S. SMITH,
JULE DONOVAN.